Interrogating the Role of Opinion Leaders in Media's COVID-19 Awareness Campaign to Mass Audience

Olanrewaju O.P. Ajakaiye[1], Isikilu B. Oloyede[2], Omowale Adelabu[2], Felix Olajide Talabi[2], Bernice O. Sanusi[2], Rachael O. Ojeka-John[1], Kehinde Abdul-Afees Ayantunji[3]

1 Landmark University
2 Redeemer's University
3 University of Ilorin

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Abstract

The COVID-19 pandemic has become the most debatable and highly controversial health crisis that has threatened the existence of humanity in recent history. While pandemics are not new in human history, its impact has altered the social structure of the world because it posed a serious threat to public health and the overall stability of systems in society. This paper examines the level of awareness created by Nigerian media during the COVID-19 pandemic, most especially the flow of information on COVID-19 pandemic from the government to the people, who most times mainly depend on the media. Does the information received by the public on COVID-19 have an influence on their adoption of safety protocols? Lastly, to find out if such information has been distorted in any form due to the mass media gatekeeping process and the impact that such may have had on the perception of the populace regarding the seriousness of the pandemic. The study adopts a quantitative method using a survey to explore the COVID-19 experience by Nigerians. Findings show that, while there are distortions in the dissemination of information owing to the gatekeeping process and coupled with some level of non-conformance among highly placed individuals, records from NCDC show that the percentage of changes in recoveries is considerably higher than the percentage of changes in

infections and fatalities during the period under review. It was concluded that the implication of the sustained higher recovery rate over the rate of fatalities is indicative of the possibility of convergence due to some level of perceived awareness the media made during the pandemic.

Olanrewaju O. P. AJAKAIYE[1,*], **I. B. OLOYEDE**[2], **Omowale ADELABU**[2], **Felix Olajide TALABI**[2], **Bernice O. SANUSI**[2], **Rachael O. OJEKA-JOHN**[1], **Kehinde Abdul-Afees AYANTUNJI**[3]

[1] *Landmark University, Omu-Aran, Kwara State, Nigeria*

[2] *Redeemer's University, Ede, Osun State, Nigeria*

[3] *University of Ilorin, Ilorin, Kwara State, Nigeria*

[*]Corresponding author:

Olanrewaju O. P. AJAKAIYE

Dept. of Mass Communication, Landmark University, Omu-Aran, Nigeria

Email: ajakaiye.olanrewaju@lmu.edu.ng

ORCID: https://orcid.org/0002-6672-9916

Phone: +234 8062172600

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Sustainable Development Goal 16 (SDG 16): Promoting Peace, Justice, and Building Strong Institutions.

Introduction

The novel Coronavirus (COVID-19) is a pandemic currently ravaging every sector of the world, but of grave concern is the information that gets to the people through government agencies on precautionary measures put in place to keep them safe. As this virus becomes a major disease of 2020 since it broke out in Wuhan, China, in November 2019, governments across the globe are taking drastic measures towards preventing the virus's spread. However, these measures are continuously disseminated through various media to numerous citizens in virtually all continents (PAHO, 2020). In the process of reporting public issues or policies, the media sometimes could distort messages they pass across due to the gatekeeping process. Most often, mediated messages are what the mass audience gets from the media and not as sent by the message source. Generally, people concentrate more on the government than the media, yet they receive most of their information from the mediated messages that originate from the media (Brindha, Jayaseelan, & Kadeswara, 2020).

Universally, communication is the process of sharing thoughts, ideas, or disseminating messages/information amongst people across divides. Communication is paramount and cannot be negotiated within times of public health emergencies.

For this reason, Crawford and Okigbo (2014) strongly believe that effective communication is one of the most valuable ways to promote good health in society by informing and educating the public about healthy habits and health care. Health communication often integrates components of multiple theories and models to promote positive changes in attitudes and behaviours. Since the virus has become a worldwide pandemic, dominating the news as well as changing people's everyday life globally, the media has played a key role in the gathering, processing, and disseminating information on the (COVID-19) pandemic to the citizens (Tasnim, Hossain & Mazumder, 2020).

However, it is important to critically consider how the populace received the intended government's information on the cause and ways to prevent the spread of the virus without losing its originality. Hence, the objective of the paper was to critically examine the extent to which the flow of information on COVID-19 pandemic moves from the government to the people, who most times majorly depend on the media. Does information received by the public on COVID-19 have an influence on their adoption of safety protocols? Lastly, to find out if such information has been distorted in any form due to the mass media gatekeeping process and the impact that such may have had on the perception of the populace regarding the graveness of the pandemic.

Graphic Presentation on COVID-19 Safety Guidelines on Symptoms

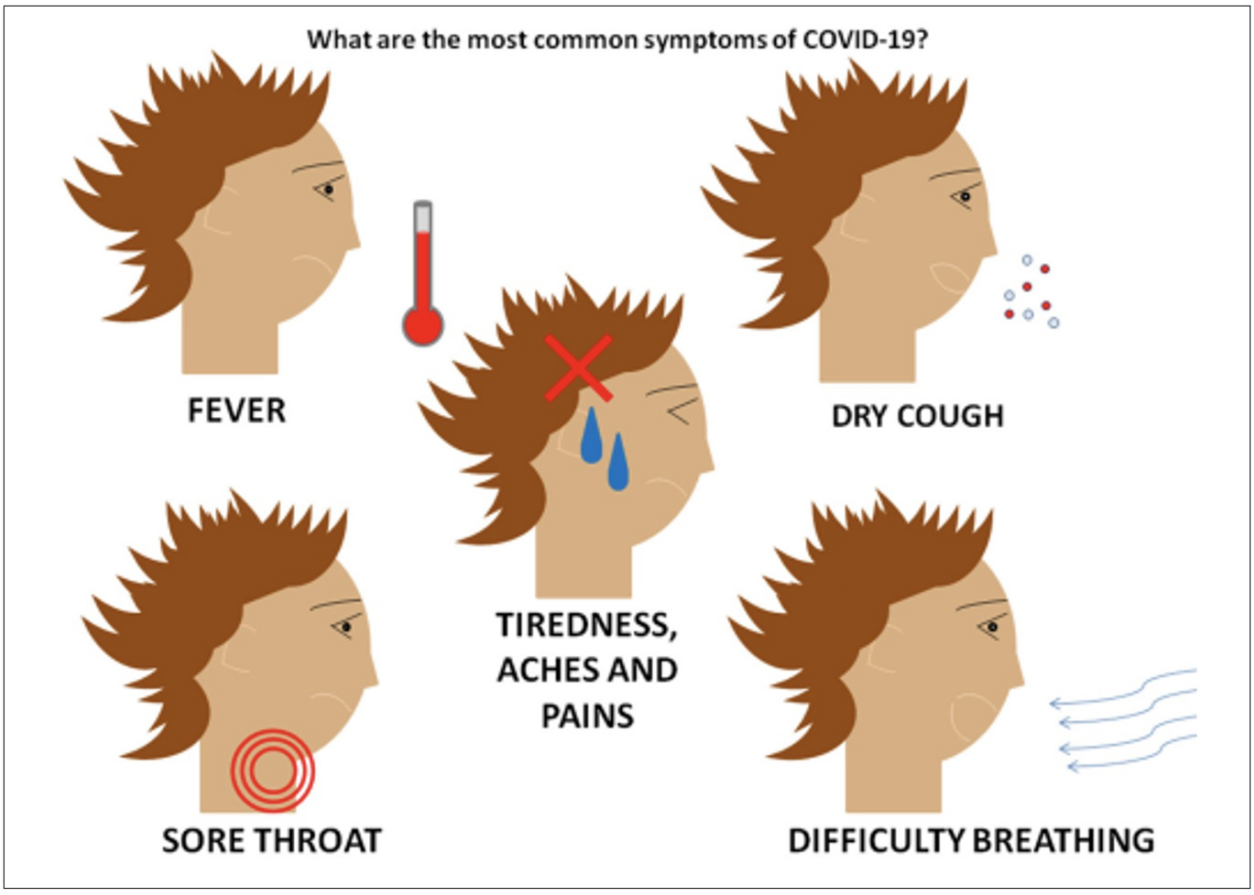

Figure 1. Example of COVID-19 Symptoms Source: Alberca et al. (2020)

SARS-CoV-2 is a respiratory virus, so it is spread mainly from person to person when an infected person sneezes, coughs, or talks. Little droplets of spit (saliva) get expelled by a person infected during the actions highlighted above, and these droplets can transmit the coronavirus upon contact with another person's mouth, eyes, or nose (Li et al., 2020). Remarkably, the virus could be seen on several surfaces such as stainless steel or plastic for days after such surfaces have become contaminated. "So, if you put your hand on a surface contaminated with SARS-CoV-2 and then touch your mouth, eye, or nose, you could become infected" (Chin et al., 2020 and Yu et al., 2020).

Graphic Presentation on COVID-19 Safety Guidelines on Prevention

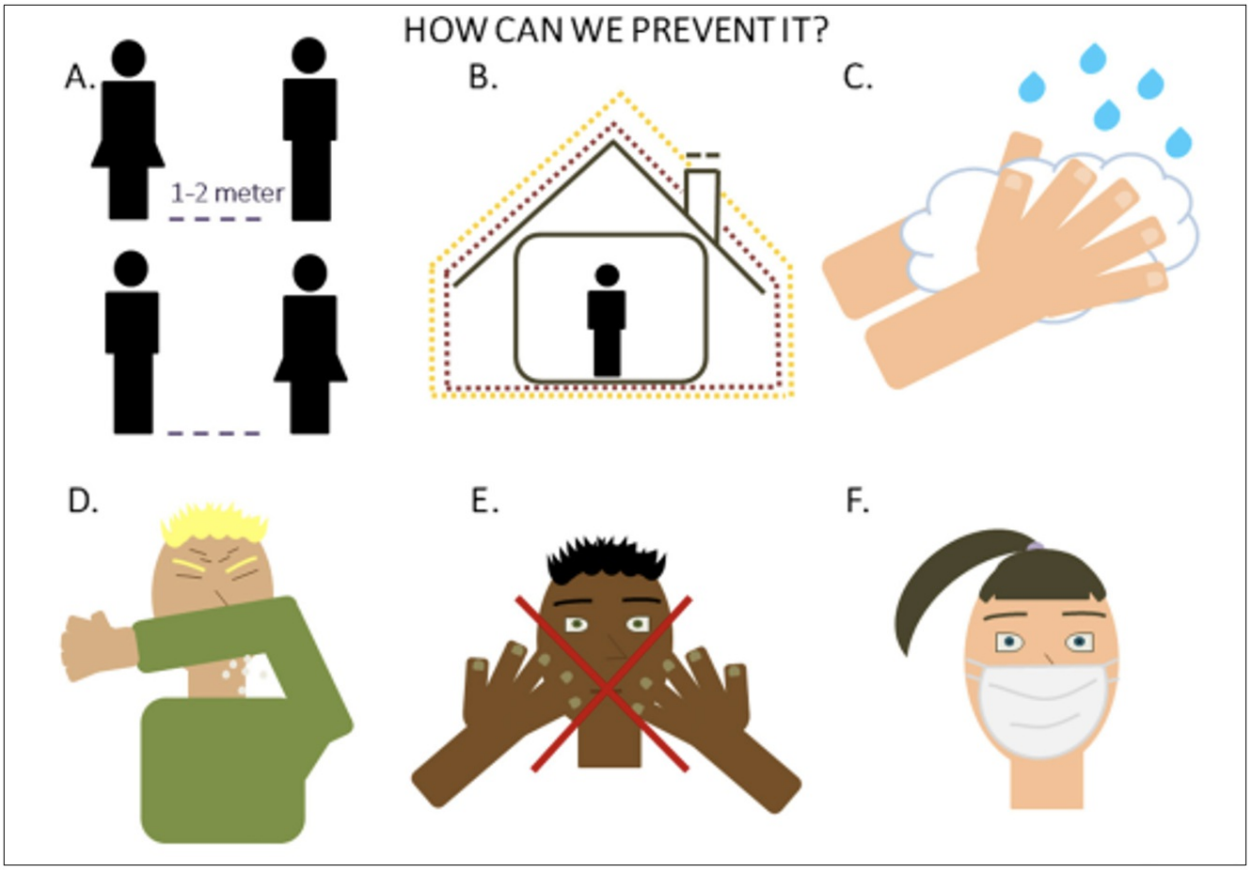

Figure 2. Showing how to prevent the spread of COVID-19.

Source: Alberca et al. (2020)

Interpretation of Figure 2: How to Prevent SARS-CoV-2 Infection.

(A) Maintain some distance (1–2 m) when talking to other people.

(B) Stay at home or avoid crowded places.

(C) Wash hands with soap and water frequently, or use alcohol-based hand sanitizers.

(D) Cover your mouth with your arm when you cough or sneeze.

(E) Avoid touching your face.

(F) Wear a protective mask (Alberca et al., 2020).

Though some people are asymptomatic, yet such individuals may still be able to infect other people who may end up

developing acute coronavirus (Chin et al., 2020). According to the government, many actions are of great value in the protection of oneself and others, which is largely seen as a personal responsibility (Rufai & Bunce, 2020). Such responsible actions are maintaining a distance between oneself and others, avoiding crowded places, washing hands frequently with soap and water, and covering one's mouth when coughing or sneezing. The simple steps highlighted would be of great help in keeping people safe from COVID-19 in Nigeria.

Communicating COVID-19 Information to Mass Audience and Health Belief Model as Theoretical Framework

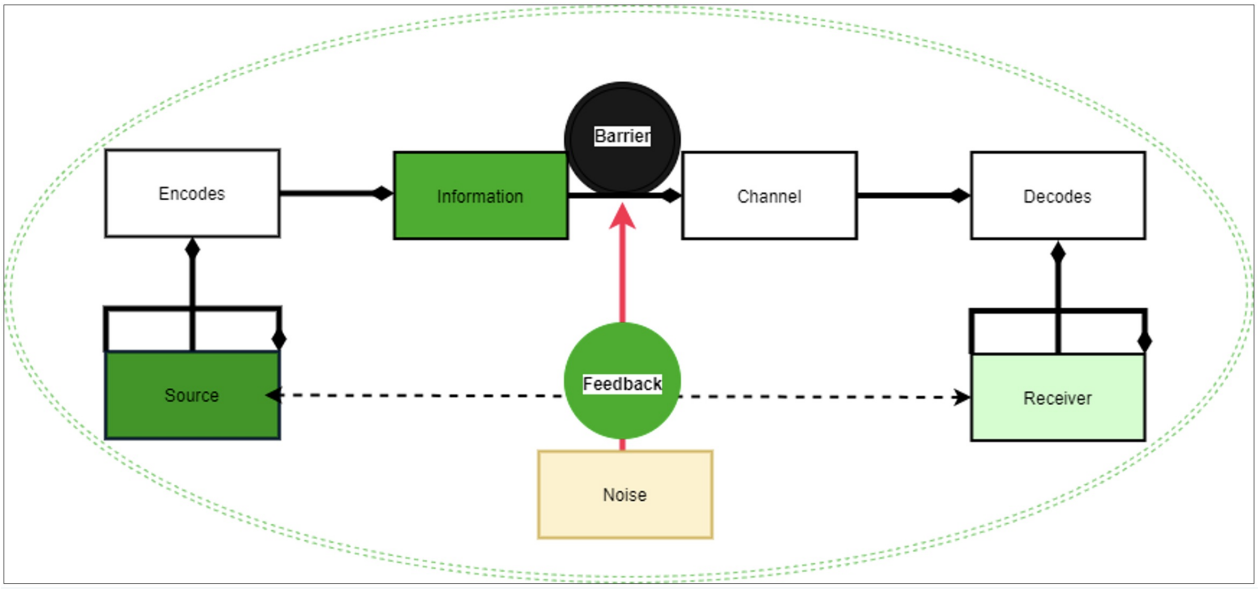

Figure 3. Example of the Communication Process (Authors' Model, 2022)

When communication takes place, it goes through a process known as fidelity, which could be described as a concept that shows the degree of congruence between the perceptions of two or more people who decide to follow through with a message originating from the sender. It is also a level of interaction that exists between the intended meaning that originates from the sender and what a message is perceived to be by the receiver. To achieve effective message fidelity, a sender of the message must go through the full communication cycle as depicted in Figure 3 above because, without going through the full cycle, communication would end in barrenness. In this case, the government is the sender, and the masses are the receivers, but the onus lies on the media, which stands as the intermediary, to ensure that during the gatekeeping process, the message intended by the government is not over-diluted or polluted with sentimental biases, considering the severity of the COVID-19 pandemic in Nigeria and the world at large.

The Health Belief Model (HBM), however, becomes instrumental as the theoretical framework for this study. Studies in health communication have emphasized the significance of understanding the theoretical underpinnings of human behavioural interventions within the context of a given society or community. That is why scholars have postulated several theories needed for public health interventions to achieve the desired outcome while communicating health-related issues

to those directly affected by any health circumstance or situation. Most public health interventions are based on theories that emphasize individual capabilities and motivation, with little regard for context and social factors (Davies et al., 2015). Concerning any health communication initiatives or campaigns, exploring the constructs of the HBM is of significance in providing more understanding in terms of interventions needed to trigger compliance with safety protocols among the Nigerian wider population. Since the early 1970s, the HBM has strongly been explored in a series of studies that have provided a useful framework for designing behaviour change interventions because it helps in understanding individual differences in health behaviour patterns.

Abraham and Sheeran (2015) and Haefner and Kirscht (1970) investigated how behaviour can be influenced through an HBM-based health communications and revealed the effectiveness of the HBM in any health intervention. Abraham and Sheeran (2015), citing Haefner and Kirscht (1970) study on dental disease awareness, relate that "HBM-based health education intervention designed to increase participants' perceived susceptibility, severity, and anticipated benefits resulted in a greater number of check-up visits to the doctor compared with no intervention over an eight-month follow-up" (p.31). Therefore, Abraham and Sheeran (2015) allude further that health promotion schemes that adopt the framework of the HBM can achieve reasonable success in influencing behaviour because the model has the advantage of defining a distinct set of common-sense beliefs that appear to explain or mediate the effects of demographic variables on health behaviour patterns. This assertion is reinforced in a cross-sectional study by Ernawaty et al. (2022) on the application of the HBM model and Milgram's Theory in understanding compliance with COVID-19 health protocols. The findings revealed that the internal factors of perceived barriers, self-efficacy, and cues to action had more influence on the community's compliance with health protocols such as physical distancing, mask-wearing, and handwashing, compared to the external factors (authority reinforcement, region status, village's head, etc.) in Milgram's theory (cited in Ernawaty et al., 2022). The severity of the COVID-19 virus increased the vulnerability of the population to the infection and were possible reasons for them to seek information from the media on safety protocols in order to avoid being infected by the virus.

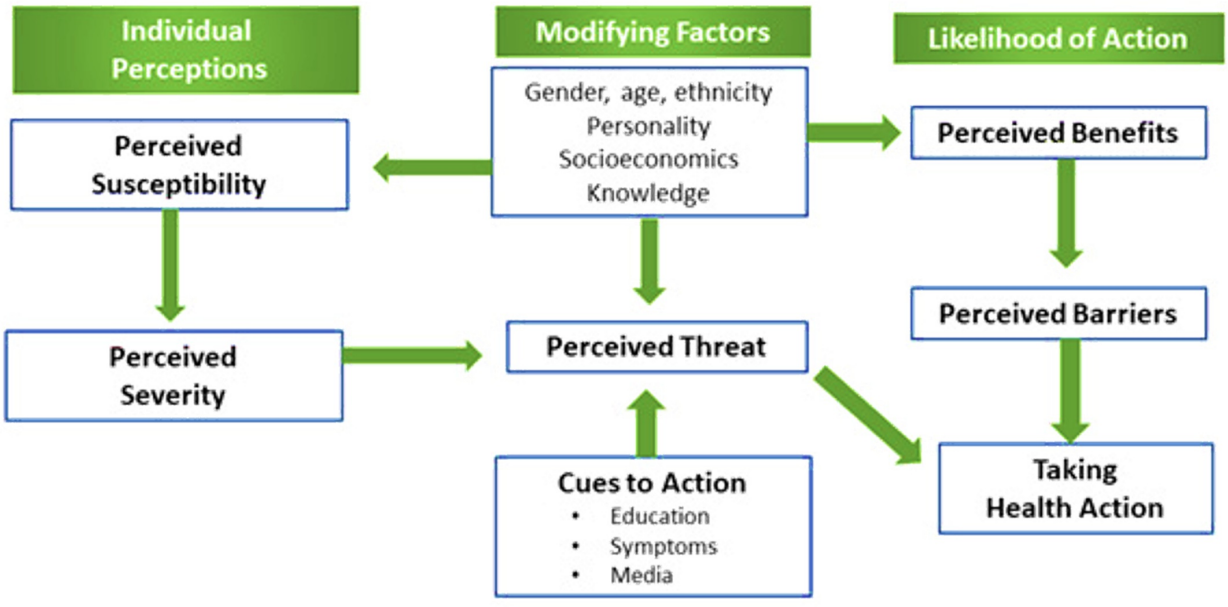

Figure 4. Model showing the Health Belief Model
(Abraham and Sheeran, 2015, Health Belief Model)

This theory becomes instrumental in judging the appropriate elements which must be present in the government's communication strategies regarding the COVID-19 pandemic that can stimulate the required behaviour as desired by the sender (government) of such information, despite the media's gatekeeping process that mediates on such messages. The construct of cues to action can encompass a wide range of influences on behaviour, from awareness and memory of mass media campaigns, through leaflets and reminder letters, to perceived descriptive and injunctive normative influences exerted by health care professionals and significant others (Abraham and Sheeran, 2015). Health messages should not just relay information but should be composed in ways that will target the cognitions of the specific audience. It becomes imperative that the selection of cognition targets for intervention design must be group-specific. While the HBM is popular and being adopted by several interventions to change or influence health-related behaviours, however, Jones et al., in their meta-analysis study, conclude that "there is insufficient evidence to attribute the use of the model in health interventions to effectiveness in changing behaviours" (cited in Green, et al., 2020: 212). However, the relevance of this model to health communication and its strategies cannot be overemphasized.

Methodology

The study adopts a quantitative methodology with a descriptive design on the COVID-19 experience in Nigeria. The purpose of the paper was to examine the level of awareness created by Nigerian media for the public, coupled with the media's deliberate efforts to draw the attention of the populace to adopt COVID-19 safety protocols, despite conflicting opinions in the public regarding the pandemic as well as how they perceived all these. The data analysed were sourced from the website of the (NCDC) and a survey. The parameters for data collection from the NCDC website were based on infection rates, recovery rates, and fatality rates. While the survey was carried out to ascertain if the level of information that got to the people had some influence on their behaviour in terms of observing the COVID-19 safety protocols or if there are other intervening variables aside from this.

In searching and selecting literature, papers, and other reference materials that align with the purpose of the study, I followed the principle of systematic reviews and meta-analyses (PRISMA) process in analysing and selecting peer-reviewed journals, papers, book chapters, textbooks, and other empirical materials that covered communication, information fidelity/infidelity, and the COVID-19 pandemic outbreak globally. PRISMA involves a four-phase process of minimum "evidence-based" analysis and reporting existing literature through "systematic reviews and meta-analysis" (Depoux et al., 2020; Tasnim et al., 2020; Chan et al., 2020; Sharma, Seo, Meng, Rambhatla, Dua & Liu, 2020; Ali & Kurasawa, 2020; Ahmad & Murad, 2020; Rufai & Bunce, 2020; Sahni & Sharma, 2020; Brindha, Jayaseelan & Kadeswara, 2020).

The role of the media in the dissemination and management of information during the pandemic is supported by two models as presented by the authors: one showing the communication process and another showing the health belief

model. The study employs secondary data on the cases of infections, recoveries, and fatalities in Nigeria for some periods in May 2020 and June 2020. Specifically, the behaviour of the populace and the trend in infections, recoveries, and fatalities were observed to ascertain the combined impact of government sensitization through the media as well as the nation's medical response. Based on the trend, the authors came up with a position on the Nigerian experience as far as the pandemic is concerned. The policy implications of the experience with particular reference to the intransigence of some opinion moulders in government and their collaborators among the citizenry are also discussed. Lastly, measures to curtail the excesses of dissenters are proffered.

Study Area and Population of Study

Nigeria, a federated and constitutional republic, is located on the coast of Africa to the West. The latitudes are 4–14◦N as well as longitudes 2–16◦E. The country has a land area of 917,156 km2 and is divided into six geo-political zones (regions), 36 states, including a Federal Capital Territory (FCT) with 774 Local Government Areas (LGAs). The current population of Nigeria as estimated by the World Bank is 208,132,490, and 52.0% of them live in urban areas (107,112,526 as of 2020).

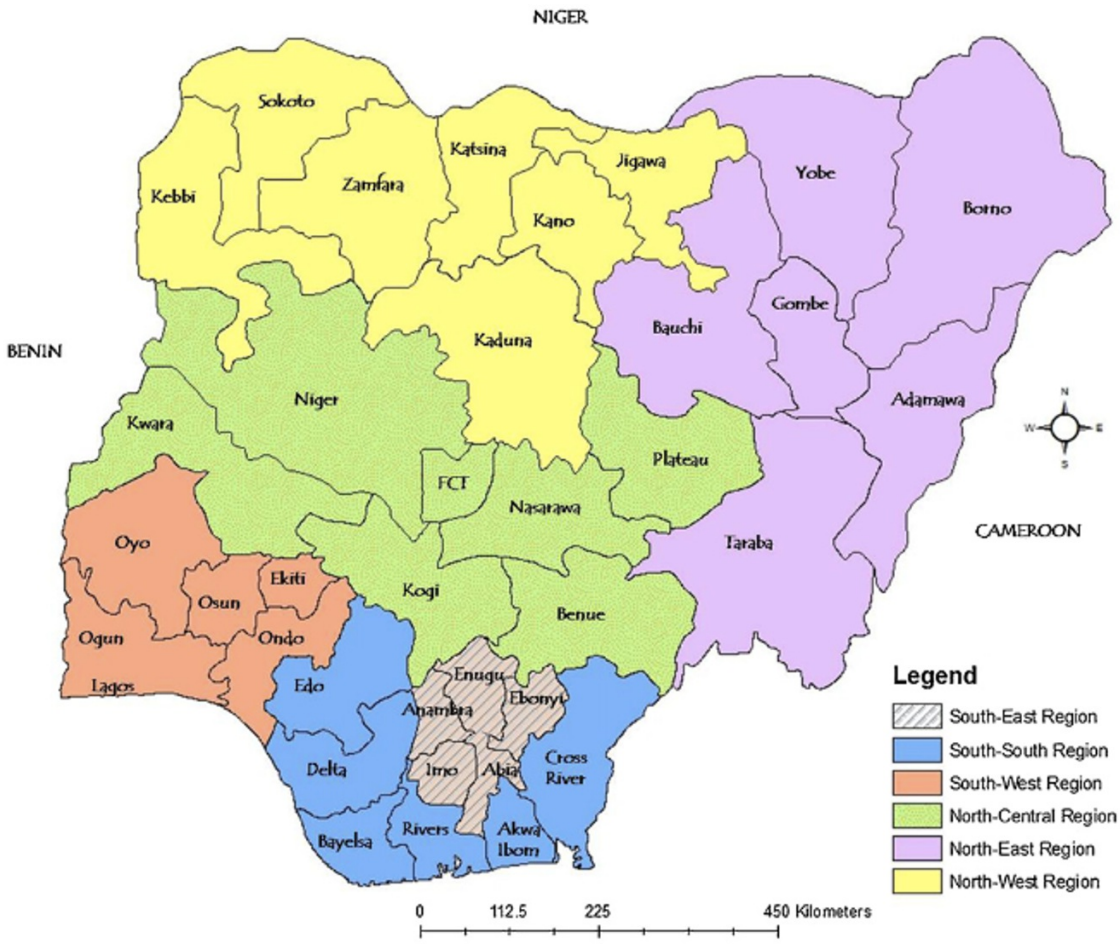

Figure 5. Nigerian Map Source: (Joannis et. al., 2008)

Data Presentation and Analysis

The purpose of the paper was to examine the level of awareness created by Nigerian media among the public, coupled with the media's deliberate efforts to draw the attention of the populace to adopt COVID-19 safety protocols, despite differing opinions in the public regarding the pandemic, as well as how they perceived all of this. The study focuses on those in the urban areas, which is premised on their literacy level and perceived awareness of the danger that the COVID-19 pandemic portends. The population for this study is based on the Nigerian Official 2006 census, which is 140,431,790. The selected states from the six (6) geopolitical zones in the country are Kwara (2,365,353), Adamawa (3,178,950), Kaduna (6,113,503), Abia (2,845,380), Rivers (5,198,716), and Oyo (5,580,894). Due to time constraints, accessibility to respondents, and the observation of safety precautions due to the COVID-19 pandemic, 600 questionnaires were administered online across the six (6) geopolitical zones in the country using purposive and random sampling techniques (100 per each zone). 20 respondents were randomly selected from five states in each of the geopolitical zones, making 100 from each of the six zones in the country. Out of the 600 questionnaires distributed, only 548 were returned, and these were analysed using simple percentages with Microsoft Excel Software. The results were also presented in tables and charts subsequently:

Research Question One: What is the nature of COVID-19 communication information sources?

Table 1. Channels through which the populace received reliable information on the COVID-19 Pandemic.

SN	Channels	Freq.	%
1	Family & Friends	117	21.4
2	Mass Media	221	40.3
3	Internet	78	14.2
4	Social Media	90	16.4
5	Others	42	7.7
Total		548	100

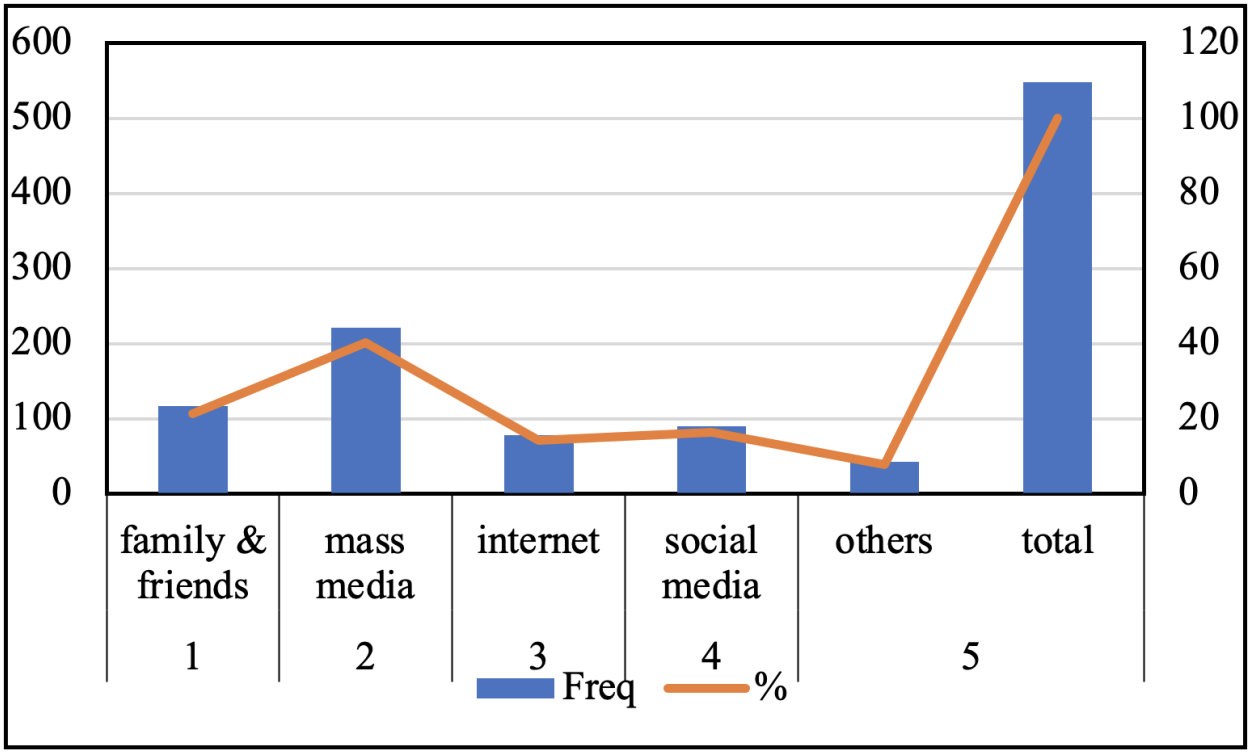

Figure 6. Channel of Information.

Information on the COVID-19 pandemic spread through numerous channels, and this was not far-fetched from the fact that the pandemic generated unprecedented panic among the populace. Therefore, reliable information was needed by the people as an instrument for better healthcare practices in order to observe COVID-19 safety protocols, as this would protect them from being infected with the virus. From the table above, 21.4% depended on family and friends for information, 40.3% made the media their source of reliable information, 14.2% felt the internet was better for them, 16.4% made social media their information abode, while 7.7% made other sources their reliable companion. This data attests to studies on the United States' government communication approach during the COVID-19 pandemic, where Kim and Kreps (2020) believe that using systems theory as a framework to identify problems in the extent of government communication with the public in response to the COVID-19 pandemic promotes effective response in public health policies and public involvement in pandemics. Highlighting the importance of communication, the authors further explain how the public perceives and reacts to a pandemic from a grassroots approach and identify government communication problems in delivering information and guiding people to rational behaviours during pandemics such as COVID-19. Kim and Kreps (2020) further reveal that the level of public perception of a health crisis determines the level at which the public would show more appropriate preparedness. They believe that many factors have been identified to influence individuals' risk perception. These factors range from age, previous experiences, education level, and gender. Among many recommendations given, the authors further propose that during pandemics, governments are to communicate information clearly and transparently to lead the public to rational and coordinated behaviours without confusion, fear, or misunderstanding during the pandemic, as well as construct a holistic government health risk communication system that connects the public, local government, federal (central) government, as well as governments of other countries.

Table 2. Opinion the populace relied on the most when they received Information on COVID-19 from the Media

SN	Opinion	Freq	%
1	Media Organizations	121	22.1
2	Presenter/Anchor/Reporter	34	6.2
3	Opinion Leaders	198	36.1
4	Social Media	99	18.1
5	Civil Society Groups	96	17.5
Total		548	100

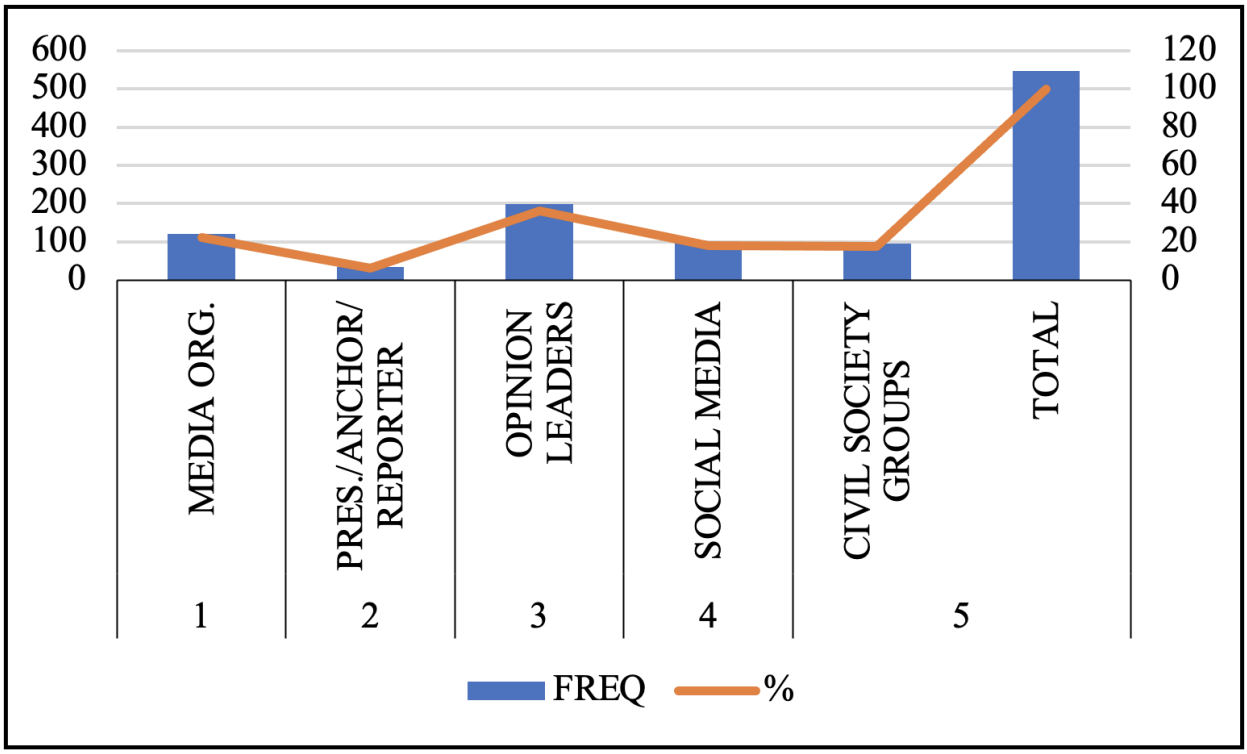

Figure 7. Populace Most Relied Upon Opinion

From the results presented in table two above, the role played by opinion leaders in the populace's reception, perception, interpretation, and retention of information they received via the media on the COVID-19 pandemic is worthy of note. While a minimum percentage of the respondents, constituting 6.2% of the population, believed that Presenters/Anchor/Reporters were reliable sources for the information received on COVID-19, other respondents perceived civil society groups and social media to be reliable, as both shared a close percentage of 17.5% and 18.1%, respectively. Communication channels are, however, vital keys to reaching the strategic population during a disease outbreak, but the Nigerian mass media were scored low by respondents at 22.1%. Indeed, when it comes to a disease outbreak, it is a truism that the spread of misinformation could hamper containment efforts because it creates a coherence gap in the recipient's understanding of an event. Lewandowsky et al., (2012) stressed that the widespread prevalence and

persistence of misinformation in contemporary societies are indeed matters of public concern that could derail health initiatives, and the effects of which are believed to be stable and difficult to eliminate (Marsh and Fazio, 2006). This further crystallizes Kim and Kreps' (2020) appellation that the degree to which the public perceives a health crisis determines the level at which the public will become more prepared.

For Africa, the COVID-19 pandemic was heavily greeted by misinformation about the virus and safety protocols to contain the virus's spread. This is evident in Seytre's (2020) findings in his investigation on Erroneous Communication Messages on COVID-19 in Africa. In a review of communication messages used by 15 countries in West Africa during COVID-19, which covered posters and flyers, radio spots, and videos, Seytre (2020) reports that very few communication messages focused on the virus responsible for the outbreak. Instead, the messages showed a number of unfounded pieces of information as well as a failure to communicate critical information necessary to comprehend the prevention measures being promoted. However, respondents who believed opinion leaders played a notable role were convinced that they were more reliable, for reasons best known to them. Despite the social media revolution, people's dependence on those they hold in high esteem for information is a fact that needs to be reckoned with. That is why 36.1% of the population of the study perceived opinion leaders to furnish them with more reliable information compared to other sources. In other words, they perceived opinion leaders, who are politicians, religious leaders, civil society organizations, pressure groups, public/political affairs analysts, social media influencers, public attention seekers, etc., to be more reliable than other sources of information.

Research Question Two: Has information on COVID-19 been distorted by communication infidelity or otherwise?

Table 3. Has Information on COVID-19 Been Distorted by Opinion Leaders or Others to Misinform/Disinform?

SN	Information	Freq	%
1	Yes	283	52
2	No	56	10.2
3	Sometimes	153	27.9
4	No Idea	56	10.2
Total		548	100

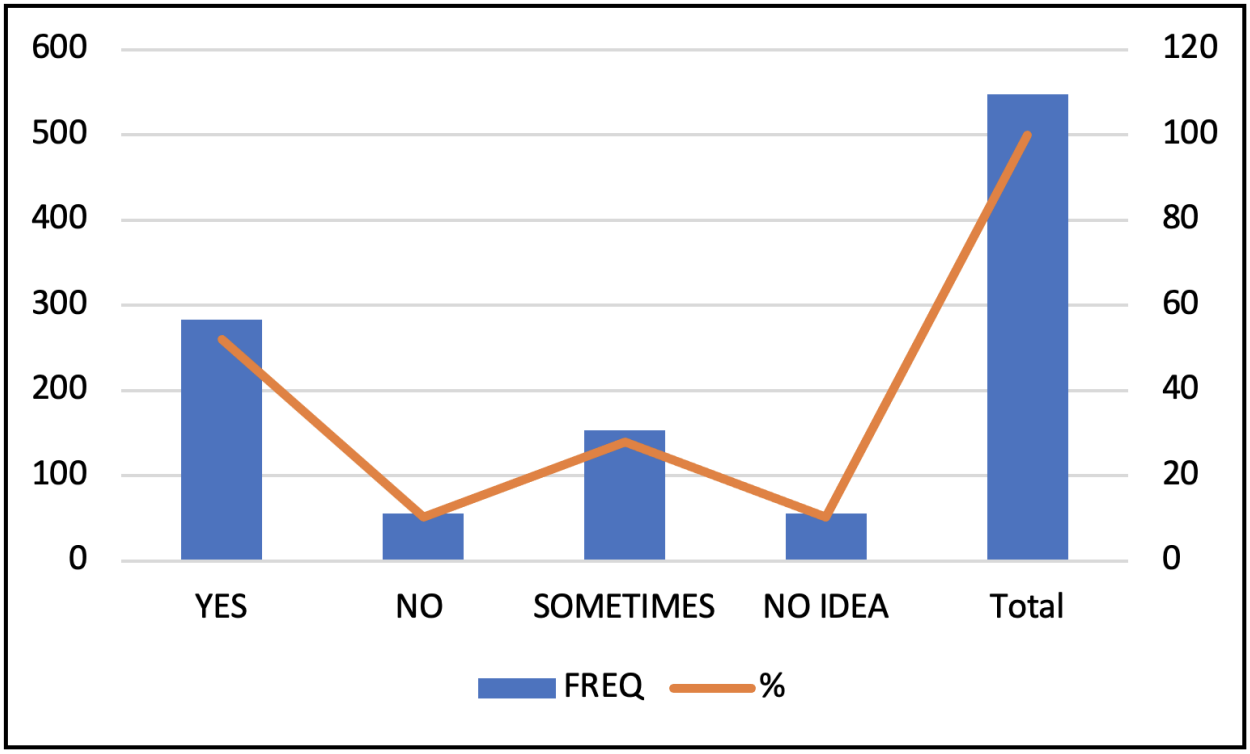

Figure 8. Showing the Role of Opinion Leaders

Realistically, communication fidelity takes place when the receiver of a message perceives the source to be credible, and that is why opinion leaders have some degree of influence on the public communication process in a Nigerian context. From the data presented above, 52% of the respondents perceived that opinion leaders, including politicians, religious leaders, civil society organizations, pressure groups, public/political affairs analysts, social media influencers, and public attention seekers, caused some level of distortion in the information they received from the media. Although the influence of some opinion leaders who serve as dissenters may manifest to a certain degree, the government's continuous partnership through the National Centre for Disease Control (NCDC) with the media would bring such influence to a minimal level so that a high degree of communication fidelity on safety guidelines and prevention in the face of a disease as deadly as COVID-19 could be achieved. Largely, communication fidelity was achieved by the Nigerian government through the information passed to the masses through the media of communication because the figures show that the recovery rate is more than the fatality rate, with the death rate being less than 2% in an estimation of over 200 million population. There were pockets of misinformation, disinformation, and 're-information' evident from the perception of respondents, and these are factors that affect communication fidelity. Going forward, the government must have stiff sanctions in place for anyone found distorting the communication process. If these issues are not carefully addressed, there will continue to be infidelity in the public communication process, as the intended meaning is jeopardized through media gatekeeping or the mischief of some opinion leaders who are dissenters.

Research Question Three: Does information received by the public on COVID-19 have influence on compliance with safety precautions?

Table 4. How helpful are Information received on COVID-19 in complying with Safety Precautions

SN	Compliance	Freq	%
1	Helpful	288	52.1
2	Not Helpful	67	12.2
3	Occasionally	158	28.8
4	Cannot Say	35	6.4
Total		548	100

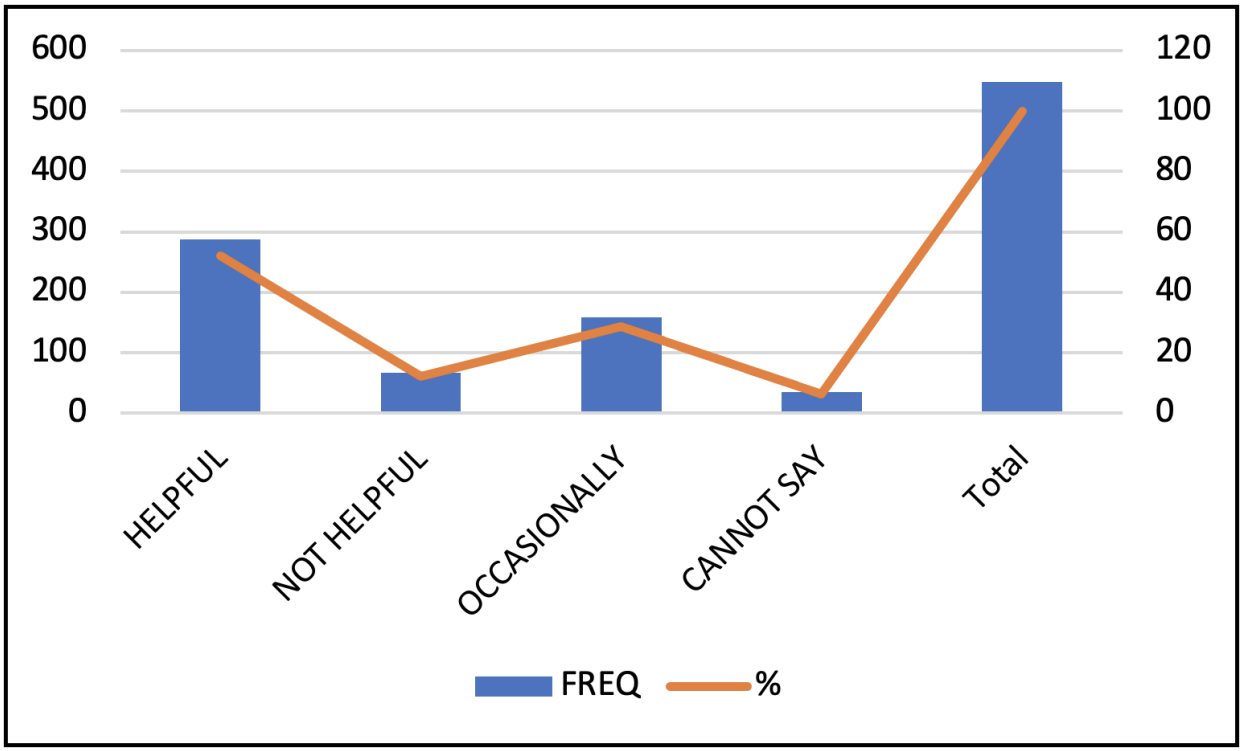

Figure 9. Showing Helpful Information on COVID-19.

From Table 4 above, 52.1% of respondents attested to the fact that the information they got through the media on safety precautions against the spread of COVID-19 helped in keeping them safe, while 28.8% occasionally perceived that information received on COVID-19 was quite helpful. The summation of these two categories of respondents gives 81%, which supports the argument that information received on COVID-19 preventive measures contributed to the increase in the recovery rate and the reduction in fatalities.

Further Discussions on the Adoption of COVID-19 Safety Precautions

Primarily, communication is an act by which one or more persons engage and send or receive messages through a

channel with some level of effect and opportunity for feedback. If there is anything clear in this simple definition, it is that communication is all about humans, what they do, and the society they live in. Whether during peace or at war, that is why we cannot but communicate. Of more concern is how understanding is achieved or not and how messages influence important, personal, societal, and global outcomes (Rubin, et al, 2010). When communication takes place, it goes through a process known as fidelity, which could be described as a concept that shows the degree of congruence between the perceptions of two or more people who decide to follow through on a message originating from the sender. It is also a level of interaction that exists between the intended meaning that originates from the sender and what a message is perceived to mean by the receiver. To achieve effective message fidelity, a sender of the message must go through the full communication cycle as depicted in figure 2 above. Without going through the full cycle, communication would end in lameness or infertility. In this case, the government is the sender, and the masses are the receivers, but the onus lies on the media, which stands as the intermediary, to ensure that during the gatekeeping process, the original message intended by the government is not over-diluted or polluted with sentimental biases, considering the severity of the COVID-19 pandemic in Nigeria and the world at large.

Implications

The application of a direct information dissemination model from the government to the public, without mediated communication through government-certified Public Health Workers who are trained in this regard, can help in making information on public health pandemics more understandable without any dissenters in the process. Interpersonal communication is the best, as it allows for immediate feedback, in contrast to mass communication, where feedback mechanisms are delayed. However, serious questions are raised about the role of mass media in fulfilling their social responsibility to the public in terms of circulating healthcare information without relying on opinion leaders who are perceived as dissenters as sources of information (Morin, Bost, Mercier, Dozon & Atlani-Duault, 2018). This question cannot be extensively answered in this paper, but further research would reveal appropriate platforms that guarantee elusive understanding for spreading and delivering COVID-19 pandemic information to the public that is void of distortions.

Globally, mass media are used by international and national health organizations to disseminate information about the COVID-19 pandemic outbreak, keeping the public informed about the measures to take to avoid, mitigate, and understand the virus trends. Different press releases and media briefings are used, among many other methods, to circulate information to assist both the public and healthcare workers in managing the pandemic (Guidry, Jin, Orr, Messner & Meganck, 2017). Statutorily, mass media serve as credible platforms for managing information during any national or global health crisis, and this significance must be appreciated by all stakeholders. However, when dissenters distort information on an issue as grave as the COVID-19 pandemic outbreak, then all hands must be on deck to restore sanity through stiff sanctions in accordance with the law.

Conclusion and Recommendations

This paper presents the reality of communication flow as it transcends human capacity and effective relations in the public space because it remains an integral part of human existence globally. The COVID-19 pandemic came with social distancing guidelines, which were passed by the WHO to all world governments to strictly adhere to, but it could not stop communication at all levels, with the media playing a crucial role in informing the people. However, this information has gone through a strict gatekeeping process, thereby compromising the original information that left the source. Insightfully, it is observed that people depended largely on government directives during the COVID-19 pandemic to know how to manage the COVID-19 global health crisis. Still, the government does not have the perceived technical expertise and capacity to pass this information to the people. Therefore, there is a need to depend on the mass media for this. At this stage, the mass media becomes the two-in-one darling bride, serving both the government and the people. However, due to the way the media is structured, it must subject any information it receives from the government to a stringent gatekeeping process. This process sieves out some information, causing the efficacy of the sieved information to be watered down or lose its intended meaning, resulting in message infidelity.

Aside from the media, there are opinion leaders who could be regarded as information dissenters. These individuals, through their perceived political and public interests, become a hindrance in the process of informing people about the right protocols and guidelines they need to observe to stay safe during the novel COVID-19 pandemic that is currently ravaging the globe. Sometimes, the influence of these opinion leaders can silence those with contrary opinions who are afraid to make them known, as these opinions do not align with those of the opinion leaders. The danger in all of these scenarios is that communication fidelity is eroding, as the intended meaning is jeopardized over time. If information keeps losing its intent, then social interactions will continue to shrink or lose their value. Despite these challenges, humans must communicate, and if they must communicate effectively, they must understand that there is a communication circle or flow that communication must pass through before fidelity can be achieved. Any disruption in this flow will result in infidelity. Furthermore, it must be recognized that the media has a stringent gatekeeping process. This is because information comes from various sources, which must be verified and processed. Communication fidelity can only be guaranteed by placing insightful trust in information from reliable sources, especially during a grave pandemic like COVID-19, even in the presence of dissenters or compromised opinion leaders.

Supplementary Tables

Table 5. COVID-19 Infections in Nigeria within the period 01/05 – 07/07 2020

Date	Samples Tested	Cases	New	%Δ	Recoveries	New	%Δ	Deaths	New	%Δ
01/05	16,588	2,170	238		352	32		68	10	3
02/05	17,566	2,388	220		385	34		85	17	3
03/05	18,536	2,558	170		400	15		87	2	3
04/05	19,512	2,802	245		417	26		93	6	3
05/05	21,208	2,950	148		481	64		98	5	3
06/05	22,492	3,145	195		534	52		103	5	3
01/06	65,885	10,578	416		3,122	115		219	12	3
02/06	69,801	10,819	241		3,239	117		314	15	3
03/06	71,333	11,166	348		3,329	90		315	1	3
04/06	73,064	11,516	350		3,535	206		323	8	3
05/06	74,999	11,144	328		3,696	161		333	10	3
06/06	76,802	12,233	389		3,826	130		342	9	3
01/07	141,525	26,484	790		10,152	406		603	13	2.3
02/07	144,833	27,110	626		10,801	649		616	13	2.3
03/07	148,188	27,564	454		11,069	268		628	12	2.3
04/07	151,121	28,167	603		11,462	393		634	6	2.3
05/07	152,952	28,711	544		11,665	203		645	11	2.2
07/07	169,629	29,789	503		12,108	280		669	15	2.2

Source: (NCDC, 2020)

Table 6. COVID-19 Infections in Nigeria by Demographics

Date	Male	%	Female	%	%Δ	Most affected Age Group	%	%Δ
01/05	1,289	67	643	33		31-40 Years	22%	
02/05	1,289	68	643	32		31-40 Years	24%	2
03/05	1,648	69	740	31		31-40 Years	23%	-1
04/05	1,767	69	791	31		31-40 Years	23%	0
05/05	1,813	68	889	32		31-40 Years	23%	0
06/05	2,026	69	924	31		31-40 Years	24%	1
01/06	71,332	67	3,445	33		31-40 Years	24%	0
02/06	7,297	67	3,522	33		31-40 Years	24%	0
03/06	7,530	67	3,636	33		31-40 Years	24%	0
04/06	7,771	67	3,745	33		31-40 Years	24%	0
05/06	7,993	67	3,851	33		31-40 Years	25%	1
06/07	8,210	67	4,023	33		31-40 Years	24%	-1
01/07	17,549	66	8,935	34		31-40 Years	24%	0
02/07	17,946	66	9,164	34		31-40 Years	24%	0
03/07	18,211	66	9,353	34		31-40 Years	25%	1
04/07	18,625	66	9,542	34		31-40 Years	24%	-1
05/07	18,916	66	9,795	34		31-40 Years	24%	0
07/07	15,612	66	10,177	34		31-40 Years	24%	0

Source: (NCDC, 2020)

Table 7. Percentage Changes in COVID-19 Infections in Nigeria within the Period 01/05 - 07/07 2020

Date	Infections In May	Infections In June	Change	% Change	Infections In July	Change Wrt JUN	% Change Wrt JUN
01	643	3445	2802	435.77	8935	5490	159.36
02	643	3522	2879	447.74	9164	6285	176.94
03	740	3636	2896	391.35	9353	5717	157.23
04	791	3745	2954	373.45	9542	5797	154.79
05	889	3851	2962	333.18	9795	5944	154.35
06	924	4023	3099	335.39	10177	6154	152.97

Source: (NCDC, 2020)

Table 8. Percentage Changes in COVID-19 Recoveries in Nigeria within the Period 01/05 - 07/07 2020

Date	Recoveries In May	Recoveries In June	Change	% Change	Recoveries In July	Change	% Change
01	352	3122	2770	786.93	10152	7030	225.18
02	385	3239	2854	741.30	10801	7562	233.47
03	400	3329	2929	732.25	11069	7740	232.50
04	417	3535	3118	747.72	11462	7927	224.24
05	481	3696	3215	669.40	11665	7969	215.61
06	534	3826	3292	616.48	12108	8282	216.47

Source: (NCDC, 2020)

Table 9. Percentage Changes in COVID-19 Fatalities in Nigeria within the Period 01/05 - 07/07 2020

Date	Fatalities In May	Fatalities In June	Change	% Change	Fatalities In July	Change	% Change
01	**68**	**219**	**151**	**222.06**	**603**	**384**	**175.34**
02	**85**	**314**	**229**	**269.41**	**616**	**302**	**96.18**
03	**87**	**315**	**228**	**262.07**	**628**	**313**	**99.37**
04	**93**	**323**	**230**	**247.31**	**634**	**311**	**96.28**
05	**98**	**333**	**235**	**239.80**	**645**	**312**	**93.69**
07	**103**	**342**	**239**	**232.04**	**669**	**327**	**95.61**

Source: (NCDC, 2020)

Declarations

Authors' contribution statement

All authors conceived the paper's idea, sourced materials for the literature, designed the methodology, and wrote the paper together diligently.

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The authors declare no conflict of interest.

Additional information

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